

CLAIMS

We claim:

1. A communication method, comprising the steps of:

generating, in correspondence with data to be transmitted, codes based on relative values of amplitude intensities of a first wave with a first polarization and a second wave with a second polarization, wherein the first and second polarizations are different;

modulating the first and second polarized waves according to the codes;

transmitting the first and second polarized waves;

receiving the transmitted first and second polarized waves;

detecting amplitude intensities of the first and second polarized waves;

decoding the detected amplitude intensities to obtain the codes; and

reproducing the transmitted data from the obtained codes.

2. The communication method according to Claim 1, wherein the codes are determined based on relative values which are ratios of the amplitude intensities of the first and second polarized waves to a difference between the amplitude intensities of the first and second polarized waves.
3. The communication method according to Claim 2, wherein said modulating step includes a step of performing phase shift keying on the first and second polarized waves before transmitting the first and second polarized waves.
4. The communication method according to Claim 2, wherein the first polarized wave

and the second polarized wave are orthogonal.

5. Communication apparatus, comprising:

a transmitter which transmits a first wave having a first polarization and a second wave having a second polarization, wherein the first polarization and the second polarization are different;

a code data assigner which assigns codes corresponding to data to be transmitted, based on relative values of amplitude intensities of the first and second polarized waves; and

a modulator which modulates the first and second polarized waves according to amplitudes corresponding to the codes assigned by said code data assigner.

6. Communication apparatus comprising:

a receiver which receives a first polarized wave and a second polarized wave;

a relative amplitude detector which detects relative values of amplitude intensities of the first and second polarized waves received by said receiver;

a decoding section which decodes to obtain codes from the relative values detected by said relative amplitude detector; and

a reproduction section which reproduces transmitted data from the codes obtained by decoding performed by said decoding section.

7. A communication system for communicating data from source apparatus to destination apparatus,

wherein the source apparatus comprises a transmitter which transmits a first wave having a first polarization and a second wave having a second polarization, wherein the first polarization and the second polarization are different; a code data assigner which assigns codes corresponding to data to be transmitted and

related to relative values of amplitude intensities of the first and second polarized waves; and a modulator which modulates the first and second polarized waves according to amplitudes corresponding to the codes assigned by said code data assigner, and

further wherein the destination apparatus comprises a receiver which receives a first polarized wave and a second polarized wave; a relative amplitude detector which detects relative values of amplitude intensities of the first and second polarized waves received by said receiver; a decoding section which decodes to obtain codes from the relative values detected by said relative amplitude detector; and a reproduction section which reproduces transmitted data from the codes obtained by decoding performed by said decoding section.